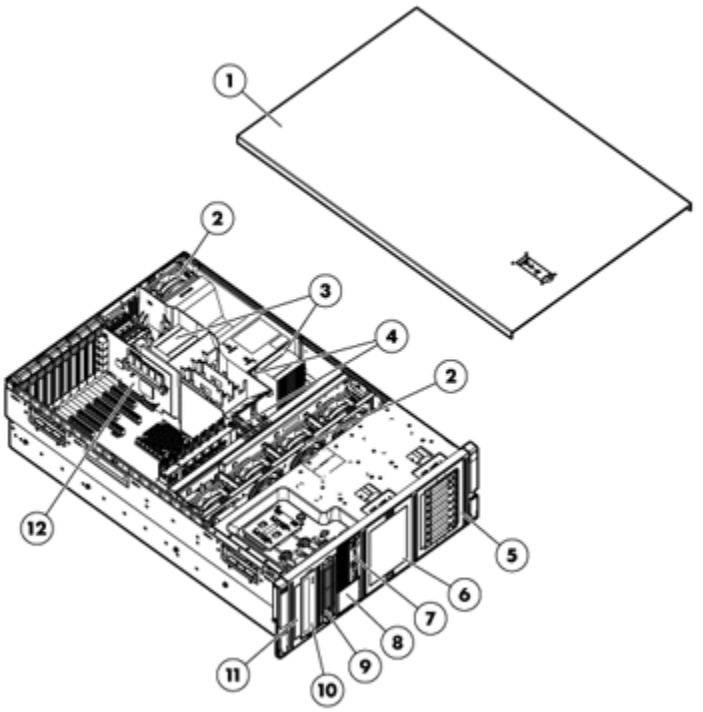
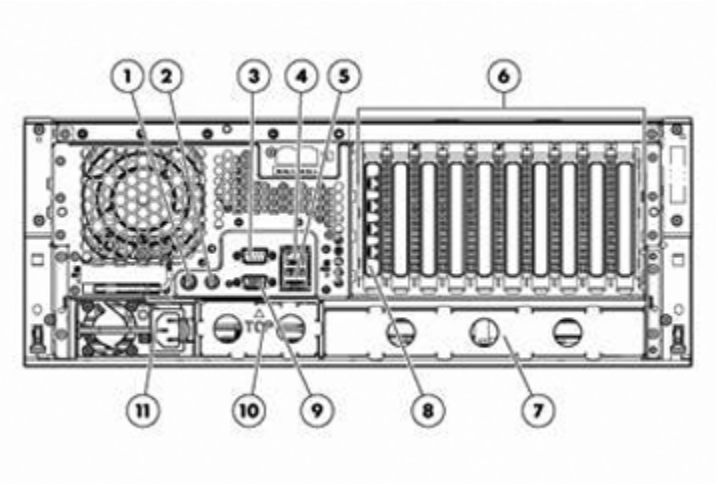
Overview

HP ProLiant DL370 G6 (Rack)





Front View:

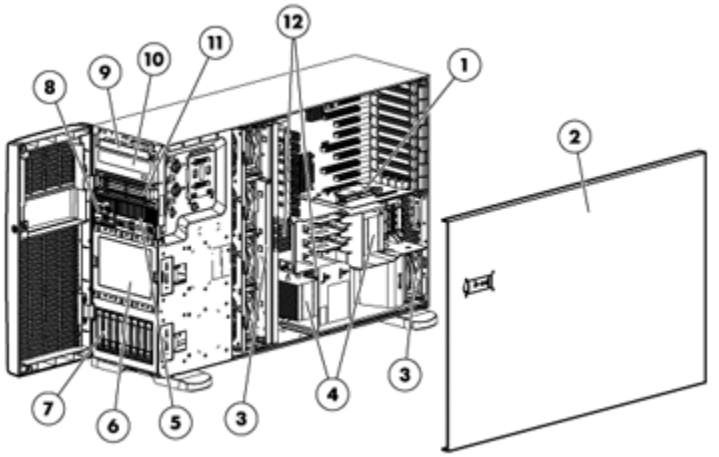
1. Quick removal access panel
2. Three Hot-plug fans (standard) Five (optional)
3. Intel Quad-Core Processor (Performance model includes two processors)
4. Eighteen slots for DDR3 Registered or Unbuffered Memory
5. SAS/SATA drive cage
6. Optional drive cage bay
7. Power on/standby button
8. System Insight Display
9. Removal media bay
10. DVD-ROM drive
11. Optional slimline optical drive bay
12. 9 Available PCI-Express Gen2 slots; PCI-X (optional)

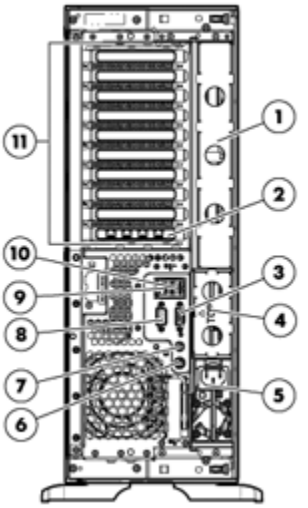
Rear View:

1. Mouse connector
2. Keyboard connector
3. Serial connector
4. iLO 2 connector
5. Two USB connectors
6. 9 Available PCI-Express Gen2 expansion slots; PCI-X (optional)
7. PCI-X Expansion slot riser bay
8. Four NIC connectors
9. Video connector
10. Power supply bay 2
11. Power supply bay 1 (populated)

## Overview

HP ProLiant ML370 G6 (Tower)




Front View:

1. 9 Available PCI-Express Gen2 slots; PCI-X (optional)
2. Quick removal access panel
3. Three Hot-plug fans (standard) Five (optional)
4. Intel Quad-Core Processor (Performance model includes two processors)
5. Power on/standby button
6. Optional drive cage bay
7. SAS/SATA drive cage
8. System Insight Display
9. Optional slimline optical drive bay
10. DVD-ROM drive
11. Removal media bay
12. Eighteen slots for DDR3 Registered or Unbuffered Memory

Rear View:

1. PCI-X Expansion slot riser bay
2. Four NIC connectors
3. Video connector
4. Power supply bay 2
5. Power supply bay 1 (populated)
6. Mouse connector
7. Keyboard connector
8. Serial connector
9. Two USB connectors
10. iLO 2 connector
11. 9 Available PCI-Express Gen2 expansion slots; PCI-X (optional)

## What's New

- Announcing support for: HP 16GB 4Rx4 PC3-8500R-7 Kit

## At A Glance

The next generation of the HP ProLiant ML370 (expandable tower chassis) and the new HP ProLiant DL370 (4U rack optimized chassis) deliver Industry-leading management tools, leading performance, expandability, flexibility and the latest energy efficient technologies. These servers are well-suited for deployment in growing businesses, remote office sites, or datacenters and have been designed to bring you (our customer) the utmost confidence to run your business.

Features included in both the HP ProLiant ML370 G6 and the HP ProLiant DL370 G6:

- Processors:
  - Up to two (2) Intel® Xeon® 5500 series processors series with Intel Turbo Boost technology which now allows customized adaptability for optimizing both power consumption and performance based on your respective requirements
  - Intel® 5520 chipset
- Memory:
  - 18 DIMM slots
  - Up to 192GB, using PC3-8500R DDR3 Registered (RDIMM) memory, operating at 800MHz when fully populated at 2

## Overview

DIMMs per Channel in 12 slots
  - Up to 24GB, using PC3-10600E DDR3 Unbuffered (UDIMM) memory, operating at 1066MHz when fully populated at 2 DIMMs per Channel in 12 slots
  - Two DIMMs Per Channel at 1333MHz supported with ROM update via ROM Based Setup Utility (RBSU) for 1333MHz RDIMMs. UDIMM support is only on 12-slot servers.
- Storage Controller:
  - Entry Models: HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
    NOTE: Entry Models available for ML370 G6 models only.
  - Base Models: HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0)
  - Performance Models: HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0)
  - Available upgrades: 256MB, 512MB with BBWC, Battery kit upgrade (for BBWC), and Smart Array Advanced Pack (SAAP)
- Internal Drive Support:
  - Up to 24 small form factor (SFF) or 14 large form factor (LFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives
  - Standard half-height DVD-ROM (all models)
  - Two open half-height media bays available for tape drives, optical media, optional SAS HDD cage
- Network Controller:
  - HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
- Expansion Slots:
  - Nine (9) available PCI-Express Gen2 expansion slots to provide you with the latest I/O performance (see "Standard Features -Expansion Slots" section below for more details); PCI-X (optional)
- Graphic Cards:
  - Supports up to 3 x 300W Graphic Cards via Graphic Card Power Adapter kit
    NOTE: 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical)
- Ports:
  - USB 2.0 support
  - 6 total ports: (2) ports in front; (2) ports in rear; (1) port for internal key; (1) port for HP internal tape
  - 1 internal Secure Digital (SD) slot
- Redundancy:
  - Multiple layers of fault tolerance through critical component redundancy (power supply and fan redundancy), mirrored memory, embedded RAID capability, and full-featured remote Lights-Out management
- Power Sources:
  - Dual Common Slot Bay for Right Sized, Hot plug and Redundant Power options
    - HP 1200W CS HE Silver Power Supply (optional)
    - HP 750W CS HE Gold Power Supply (standard on some models)
    - HP 460W CS HE Gold Power Supply (standard on some models)
- Infrastructure Management:
  - HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) for simplified server setup, health monitoring and recovery, power and thermal control, and lights-out remote administration.
  - HP Insight Control a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, control and optimize your IT infrastructure through a single, simple management console. Insight Control supports both Windows and Linux-based central management servers.
  - HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. This ultimately enables them to dynamically keep pace with the organization's changing business requirements.
- Form Factor:
  - 4U Tower Chassis and 4U Rack Optimized Chassis
    - Redesigned 4U Tower Chassis and the new 4U Rack Optimized Chassis to better meet our customer's density requirements
- Operating Systems and Virtualization Software Support for ProLiant Servers:
  -

## Overview

- Supports Windows, RHEL, SLES, OEL, Solaris, VMware, and Citrix Essentials for XenServer

- Deployment/Serviceability:
  - System Insight Display on the front bezel for quick and easy server diagnostics
  - Quick Deploy Rail System includes sliding universal rails, an ambidextrous cable management arm and quick release levers for fast and easy serviceability
  - Tool-less access to all system components for easy in rack serviceability
  - Customer Self Repair (CSR): HP products are designed with many CSR parts to minimize repair time and allow for greater flexibility in performing defective parts replacement
- Warranty:
  - This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.
    NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:
    http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html

## Standard Features

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

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|---|---|
| Processor<br>One of the following depending on Model | Quad-Core Processors<br>Intel® Xeon® Processor W5580 (3.20 GHz, 8MB L3 Cache, 130W, DDR3-1333, HT, Turbo 1/1/1/2)<br>Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)<br>Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)<br>Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3)<br>Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)<br>Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)<br>Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2)<br>Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800)<br>Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800)<br>Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2)<br>Dual-Core Processors<br>Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800)<br>NOTE: Up to 2 processors supported. Performance configurations include two processors. Mixing different processor models is not supported.<br>NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology.<br>NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active.<br>NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.<br>NOTE: For the Intel 5500 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage. |
| Cache Memory<br>One of the following depending on Model | 8MB (1 x 8MB) Level 3 cache<br>NOTE: All processor models except for those identified below.<br>4MB (1 x 4MB) Level 3 cache<br>NOTE: For processors E5506/E5504/E5502. |
| Upgradeability | Upgradeable to two processors |
| Chipset | Intel® 5520 chipset<br>NOTE: For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/. |
| Memory Protection | Advanced ECC<br>Mirroring mode<br>Lockstep mode |

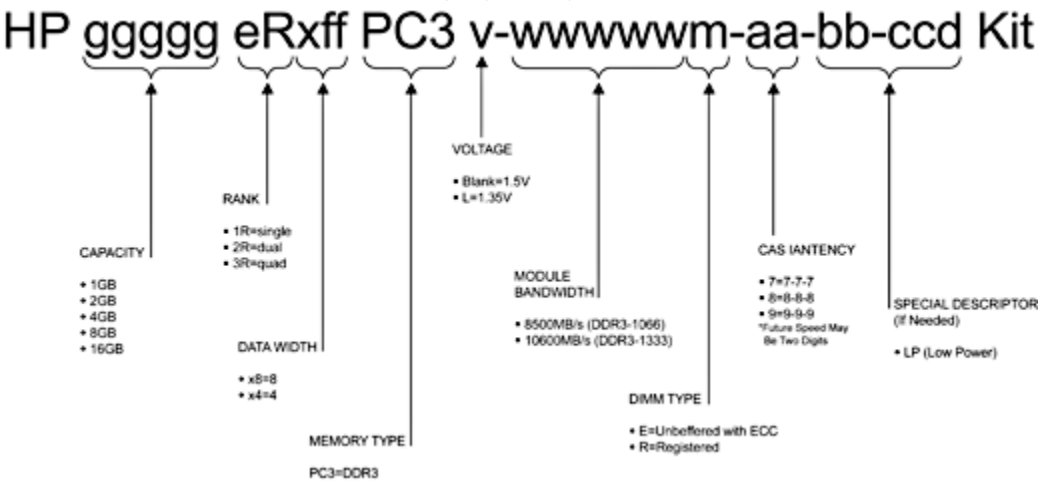
## Standard Features

| | | |
|---|---|---|
| Memory<br>One of the following depending on Model | Type | DDR3 Registered (RDIMM) or Unbuffered (UDIMM) |
| | Standard (Performance Models) | 12 GB (6 x 2 GB) RDIMM |
| | Standard (Base Models) | 6 GB (3 x 2 GB) RDIMM |
| | Standard (Entry Model) | 4 GB (2 x 2 GB) RDIMM |
| | Maximum (RDIMM) | 192 GB (12 x 16 GB) for Registered Memory configurations |
| | Maximum (UDIMM) | 24 GB (12 x 2 GB) for Unbuffered Memory configurations |

NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.

NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.

DDR3 memory options part number decoder




| | |
|---|---|
| Network Controller | HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter |

| Expansion Slots | Expansion Slots # | Technology | Bus Width | Connector Width | Form Factor | Notes |
|---|---|---|---|---|---|---|
| | 1 | PCIe | x4 | x8 | Half length, full height | |
| | 2 | PCIe2 | x4 | x8 | Full Length/Full Height | |
| | 3 | PCIe2 | x16 | x16 | Full Length/Full Height | |
| | 4 | PCIe2 | x4 | x8 | Full Length/Full Height | |
| | 5 | PCIe2 | x4 | x8 | Full Length/Full Height | |
| | 6 | PCIe2 | x8 | x16 | Full Length/Full Height | |
| | 7 | PCIe2 | x4 | x8 | Full Length/Full Height | |

Standard Features

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|---|---|---|---|---|---|
| | 8 | PCIe2 | x16 | x16 | Full Length/Full Height | |
| | 9 | PCIe2 | x4 | x8 | Full Length/Full Height | |
| | 10 | PCIe2 | X8 | X8 | Half length, full height | Utilized by NIC controller "Use the correct model number for the NIC" |
| | 11 | PCI-X | See note | See note | Full Length/Full Height | (optional) *Up to 64bits/133Mhz speed when only one device install in slot 11 and 12 *up to 64bits/100Mhz speed when both slot 11 and 12 are utilized. |
| | 12 | PCI-X | See note | See note | Full Length/Full Height | (optional) |

*Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.

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|---|---|---|
| Storage Controller One of the following depending on Model | Entry Models | HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0) |
| | Base Models | HP Smart Array P410i/256 MB Controller (RAID 0/1/1+0/5/5+0) |
| | Performance Models | HP Smart Array P410i/512 MB BBWC Controller (RAID 0/1/1+0/5/5+0/6) |
| | Available upgrades: 256MB, 512MB with BBWC, 512MB with FBWC, 1G with FBWC, Battery kit upgrade (for BBWC), and Smart Array Advanced Pack (SAAP). | |

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| Storage | Diskette Drive | None Standard | |
| | Optical Drive | SATA DVD ROM (standard in all models) | |
| | Hard Drives | None Standard | |

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| Maximum Internal Storage Type | Hot Plug SFF SAS | 7.20TB | 24 x 300GB |
| | Hot Plug LFF SAS | 14 TB | 14 x 1TB |

## Standard Features

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|---|---|---|
| Interfaces | Serial | 1 (rear) |
| | Pointing Device (Mouse) | 1 |
| | VGA | 1 (+1 front VGA on rack models) |
| | Keyboard | 1 |
| | Network RJ-45 (Ethernet) | 4 (rear) |
| | ILO 2.0 remote management port | 1 |
| | SD slot | 1 |
| | USB 2.0 Ports | 5 (2 on the rear, 2 on the front, 1 internal)<br>NOTE: Please see the following URL for additional information regarding USB support:<br>http://h18004.www1.hp.com/products/servers/platforms/usb-support.html |
| | Dedicated USB 2.0 Port | 1 (available for DAT USB tape connectivity)<br>NOTE: Internal USB ports are optimal for the attachment of HP DAT USB Internal Tape Drives |
| Graphics | Integrated ATI RN50, 64 MB video standard<br>• 16 bit color: maximum resolution of 1600 x 1200<br>• 32 bit color: maximum resolution of 1280 x 1024<br>NOTE: Maximum resolution available via iLO 2 remote console is 1280 x 1024. | |
| Form Factor | 4U Rack and Tower form factor (7 in, 17.8 cm) | |
| HP Insight Software | HP Insight Foundation | Managing the growing number of servers can be complex and expensive for your organization. IT managers need to address changing business needs with tools that meet the challenges of managing today's complex Datacenters.<br>HP provides management solutions that are designed to simplify a server's installation, configuration and maintenance throughout the entire server lifecyle. This provides the customer with higher levels of operational efficiency and highly reliable systems: www.hp.com/go/foundation.<br>The foundation pack includes:<br>• HP SmartStart<br>• HP Management<br>• HP ProLiant Firmware Maintenance<br>SmartStart version supported (minimum): SmartStart 8.20<br>http://www.hp.com/servers/smartstart |
| | ProLiant Onboard Administrator | HP ProLiant Onboard Administrator (powered by the HP Integrated Lights-Out 2 management processor) simplifies server setup, health monitoring, power and thermal control, and lights-out remote administration of ProLiant ML, DL, and BL servers. HP ProLiant Onboard Administrator functions without additional software, and can be accessed from any location via a web browser. It works hand-in-hand with HP Systems Insight Manager, Insight |

Standard Features

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| | Control suites, and the Insight Dynamics for ProLiant helping customers unlock the value of the ProLiant platform and deliver the highest possible quality of IT service to the business. See www.hp.com/go/ProLiantOA |
| HP Insight Control | HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console.<br><br>Two versions of Insight Control are available, to serve environments requiring either a Linux-based or a Windows-based central management server: HP Insight Control for Linux, and HP Insight Control. See www.hp.com/go/insightcontrol<br><br>HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: http://www.hp.com/services/insight. |
| HP Insight Dynamics for ProLiant | HP Insight Dynamics for ProLiant, a product option, is an integrated command center that enables IT Staff personnel to continuously analyze and optimize a converged infrastructure, while automating and reducing the cost of common data center tasks by as much as 40 percent. As a powerfully integrated by design toolkit to accelerate complex technology projects and simplify daily operations that ultimately enable IT Staff personnel to dynamically keep pace with the organizations changing business requirements. It enables them to plan capacity and power continuously, balance across physical and virtual resources, and ensure cost-effective high availability. It also enables IT organizations to provision infrastructure consistently and automatically from pools of shared resources using a self-service portal. Resources provisioned can range from a single virtual machine to complex multi-tier environments and their associated physical and virtual resource requirements. In addition to the previous functional benefits, it also provides a cost-effective disaster recovery for physical and virtual environments that works with HP StorageWorks Continuous Access software for both the Enterprise Virtual Array and the XP storage array allowing application environments to be reactivated in minutes with the touch of a button to a remote location.<br><br>NOTE: For more information, visit: http://www.hp.com/go/insightdynamics |

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| Industry Standard Compliance | ACPI V2.0 Compliant<br>PCI-Express Gen2<br>PXE Support<br>WOL Support<br>Microsoft® Logo certifications<br>USB 2.0 Support<br>SMBIOS 2.6.1 |

## Standard Features

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|---|---|
| Security | Power-on password<br>Keyboard password<br>Diskette drive control<br>Diskette boot control<br>QuickLock, Network Server Mode<br>Serial interface control<br>Administrator's password |
| Security Trusted Platform Module | Trusted Platform Module option kit<br><br>The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the server platform. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 1.2. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server 2008 has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to: www.hp.com/go/TPM<br><br>NOTE: ProLiant OS pre-installed units will come with the partition required for TPM deployment.<br>NOTE: The TPM key is unique to every TPM deployed server and must be retained. Misplacing or losing the key could result in data loss. |
| Server Power Cords | High voltage power cord ships standard with all part numbers. Localized cables included with geographic specific models in other world regions.<br>NOTE: ProLiant DL servers no longer ship standard with NEMA power cords (187335-001) that allow connection to 110V US wall outlets in a home or office. ProLiant DL servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant DL server using a 110V receptacle (NEMA-15), the above NEMA power cord must be ordered separately. |
| UPS Power Cord Matrix | Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords. |
| Power Supply | HP has a new design for ProLiant power- the new Common Slot Power Supply bay. This design provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with Common Slot, High Efficiency and Right-Size Power Supplies. The new HP Common Slot power supplies are designed for the highest power efficiency without degrading performance of the ProLiant server. Power Supplies have efficiency ratings up to 92%. There are three Right Size power options available depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, please use the HP Power Advisor at www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant. |

## Standard Features

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| Common Slot ProLiant | It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs. HP offers four Power Supply Options:<br>• HP 460Watts, Common Slot, 92% Efficiency<br>• HP 750Watts, Common Slot, 92% Efficiency<br>• HP 1200Watts, Common Slot, 90% Efficiency<br>HP's ProLiant Common Slot Power supplies (460W & 750W) meet multiple Energy Efficiency Initiatives. Climate Savers Computing Initiative GOLD, ECOS Consulting 80PLUS GOLD and plans on offering models that meet the Energy Star for Server requirements when they are published.<br>HP's ProLiant Common Slot Power supplies (1200W) meet multiple Energy Efficiency Initiatives. Climate Savers Computing Initiative Bronze, ECOS Consulting 80PLUS Bronze Power Supply requirements.<br>Redundant Power: Optional (1+ 1 or n+n redundant) power supplies can be purchased through power supply option kits (see Redundant Options for part numbers). |
| System Fans | (3) Hot Plug fans ship standard<br>NOTE: For full redundancy you can purchase the HP ML370 G6 and DL370 G6 Redundant Fan Kit; PN: 508107-B21. |
| Required Cabling | For external storage cabling information, refer to the Web site at: www.hp.com/servers/dl370 or www.hp.com/servers/ml370. |
| Operating Systems and Virtualization Software Support for ProLiant Servers | Microsoft Windows Server<br>Microsoft Windows Server 2008 Hyper-V<br>Red Hat Enterprise Linux (RHEL)<br>SUSE Linux Enterprise Server (SLES)<br>Oracle Enterprise Linux (OEL)<br>Solaris<br>VMware<br>HP Citrix Essentials for XenServer<br>NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: http://www.hp.com/go/ossupport and our driver download page http://www.hp.com/support/ML370G6. |

## Standard Features

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| Rack Airflow Requirements | Rack 10000 G2 series Cabinets<br>The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.<br><br>CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:<br><br>• Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 830 square inches (5,350 sq cm) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).<br>• Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 2.75 inches (7 cm).<br><br>CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.<br><br>NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: www.hp.com/servers/ml370-g6. |
| Rack Kit | Quick deploy rail system provides tool-free support for racks with square or round mounting holes (including Compaq/HP 7000, 9000, 10000 G2 and HP series), with an adjustment range of 24" - 36". The ambidextrous cable management arm can be mounted on either the left or right side for improved cable management. |
| Telco Rack Support | Support for all 2-post Telco racks requires the use of the standard rack kit and an additional option kit from Rack Solutions at: www.hp.com/go/rackandpower. |
| Factory Express Portfolio for Servers and Storage | HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.<br><br>Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.<br><br>For more information on Factory Express services for your specific server model please contact your sales representative or go to: http://www.hp.com/go/factory-express. |

## Standard Features

**HP Enterprise Configurator**

The HP eConfigure Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance. http://www.hp.com/products/configurator

**Service and Support**

HP Care Pack services provide total care and support expertise with committed response designed to meet your IT and business needs.

HP Care Pack services include coverage for the HP branded hardware options qualified for the server and purchased at the same time or afterward that are internal to the enclosure. This also includes the 22" and smaller external monitors and tower UPS options up to 3kVA. These items will be covered at the same service level and for the same coverage period as the server. Coverage of UPS Battery is not included, and standard warranty terms & conditions apply. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

To fully capitalizing on your HP ProLiant servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions, provides a range of support services designed to meet the varying needs of your business. Whether an SMB, or large global corporation, HP has a ProLiant server support offer to help you speedily deploy and maximize system uptime.

Recommended Service - simplify ProLiant solution implementation, maintenance, and management.

- Support - 3-Year 4-Hour response 24x7 Same Business Day Coverage only
- Service - Installation and Start up only

Enhanced Service - optimize service level to increase IT performance and availability.

- Support - 3-Year Support Plus 24 only

Refer to the information on "Installation & Start-Up" for service on ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet; to be delivered on a scheduled basis 8am-5pm, M-F, excluding HP holidays.

NOTE: For a complete listing of service offerings and information visit:
http://www.hp.com/services/proliantservices
http://www.hp.com/go/proliant/carepack

## HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for this server under the Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand, Gigabit Ethernet or Myrinet Interconnects: http://www.hp.com/techservers/clusters/ucp/index.html.

| | | |
|---|---|---|
| HPC Interconnect | InfiniBand | PCI-X and PCI-Express adapters |
| | Gigabit Ethernet | Use embedded ports |
| | Myrinet XP | PCI-X Rev D and Rev E adapters |

Models

## Base Models

| | | |
|---|---|---|
| HP ProLiant DL370 G6 E5530 2.40GHz Quad Core SFF Base Rack Server 487794-xx1 | Processor | (1) Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) |
| | Cache Memory | 8MB (1 x 8MB) L3 cache |
| | Memory | 6GB (3 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs |
| | Network Controller | HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter |
| | Storage Controller | HP Smart Array P410i/256MB Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | (8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed) |
| | Optical Drive | SATA DVD ROM |
| | PCI-Express Slots | 10 slots - (9) available PCI-e Gen2 slots (NOTE: 10 slots available, one is taken by the NIC riser card) |
| | Power Supply | (1) 750W Hot Plug Power Supply |
| | Fans | (3) Hot Plug Fans |
| | Form Factor | 4U Rack |

## Performance Models

| | | |
|---|---|---|
| HP ProLiant DL370 G6 X5550 2.66GHz Quad Core SFF High Performance Rack Server 487790-xx1 | Processor | (2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) |
| | Cache Memory | 8MB (1 x 8MB) L3 cache |
| | Memory | 12GB (6 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs |
| | Network Controller | HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter |
| | Storage Controller | HP Smart Array P410i/512MB with BBWC |
| | Hard Drive | None ship standard |
| | Internal Storage | (8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed) |
| | Optical Drive | SATA DVD ROM |
| | PCI-Express Slots | 10 slots - (9) available PCI-e Gen2 slots<br>NOTE: 10 slots available, one is taken by the NIC riser card |
| | Power Supply | (2) 750W Redundant Hot Plug Power Supplies |
| | Fans | (5) Fully Redundant Hot Plug Fans |
| | Form Factor | 4U Rack |

## Models

| | | |
|---|---|---|
| HP ProLiant DL370 G6 X5550 2.66GHz Quad Core SFF Performance ICE Rack Server 576411-xx1 | Processor | (2) Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) |
| | Cache Memory | 8MB (1 x 8MB) L3 cache |
| | Memory | 12GB (6 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs |
| | Network Controller | HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter |
| | Storage Controller | HP Smart Array P410i/512MB with BBWC |
| | Manageability | HP Insight Control Environment No Media single server license, including 1 year of 24x7 Technical Support and Updates |
| | Hard Drive | None ship standard |
| | Internal Storage | (8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed) |
| | Optical Drive | SATA DVD ROM |
| | PCI-Express Slots | 10 slots - (9) available PCI-e Gen2 slots<br>NOTE: 10 slots available, one is taken by the NIC riser card |
| | Power Supply | (2) 750W Redundant Hot Plug Power Supplies |
| | Insight Control Environment (ICE) | HP Insight Control Environment No Media single server license, including 1 year of 24x7 Technical Support and Updates |
| | Fans | (5) Fully Redundant Hot Plug Fans |
| | Form Factor | 4U Rack |

## Base Tower Models: Quad-Core

| | | |
|---|---|---|
| HP ProLiant ML370 G6 E5540 2.53GHz Quad Core SFF Base Tower Server 487791-xx1 | Processor | (1) Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) |
| | Cache Memory | 8MB (1 x 8MB) L3 cache |
| | Memory | 6GB (3 x 2GB) PC3-10600 (DDR3-1333) Registered DIMMs |
| | Network Controller | HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter |
| | Storage Controller | HP Smart Array P410i/256MB Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | (8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed) |
| | Optical Drive | SATA DVD ROM |
| | PCI-Express Slots | 10 slots - (9) available PCI-e Gen2 slots<br>NOTE: 10 slots available, one is taken by the NIC riser card |
| | Power Supply | (1) 750W Hot Plug Power Supply |
| | Fans | (3) Hot Plug Fans |
| | Form Factor | 4U Tower |

Models

## Entry Tower Models: Quad-Core

| | | |
|---|---|---|
| HP ProLiant ML370 G6 E5520 2.26GHz Quad Core SFF Entry Tower Server 487795-xx1 | Processor | (1) Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) |
| | Cache Memory | 8MB (1 x 8MB) L3 cache |
| | Memory | 4 GB (2 x 2 GB) PC3-10600 (DDR3-1333) Registered DIMMs |
| | Network Controller | HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter |
| | Storage Controller | HP Smart Array P410i/256MB Controller |
| | Hard Drive | None ship standard |
| | Internal Storage | (8) SFF SAS/SATA HD Bays (Standard); Up to (24) SFF SAS/SATA with optional drive cage (up to three 8 SFF drive cage can be installed) |
| | Optical Drive | SATA DVD ROM |
| | PCI-Express Slots | 10 slots - (9) available PCI-e Gen2 slots<br>NOTE: 10 slots available, one is taken by the NIC riser card |
| | Power Supply | (1) 460W Hot Plug Power Supply |
| | Fans | (3) Hot Plug Fans |
| | Form Factor | 4U Tower |

| Country Code Key | Tower Code Key | Rack Code Key |
|---|---|---|
| XX=00 | U.S. | U.S. |
| XX=01 | Australia | N/A |
| XX=03 | UK | N/A |
| XX=04 | Germany | N/A |
| XX=05 | France | N/A |
| XX=20 | Brazil | Brazil |
| XX=29 | Japan | Japan |
| XX=37 | A/P | A/P |
| XX=42 | Europe | Europe |
| XX=AA | PRC | PRC |

Configuration Information - Factory Integrated Models

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on CTO product offerings and requirements.
NOTE: HP does not allow factory integration of options into standard models listed above. Configure-to-order servers must start with c CTO Chassis.
NOTE: FIO indicates that this option only available as a Factory Installable Option.

## Step 1: Base Configuration (choose one of the following configurable models)

HP Models

### HP ProLiant ML370 G6 Tower Models

HP ProLiant ML370 G6 SFF CTO Chassis 483880-B21
NOTE: Supports Small Form Factor (SFF) - 2.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(8) Hot-Plug (SFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
Tower Form Factor

### HP ProLiant ML370 G6 Tower CTO Chassis

HP ProLiant ML370 G6 LFF CTO Chassis 483879-B21
NOTE: Supports Large Form Factor (LFF) - 3.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(6) Hot-Plug (LFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
Tower Form Factor

### HP ProLiant DL370 G6 Rack Models

HP ProLiant DL370 G6 SFF CTO Chassis 483874-B21
NOTE: Supports Small Form Factor (SFF) - 2.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter
Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(8) Hot-Plug (SFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
4U Rack Form Factor

HP ProLiant DL370 G6 LFF CTO Chassis 483873-B21
NOTE: Supports Large Form Factor (LFF) - 3.5" Drives

Factory Integrated Model ships with:

HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter

Integrated Lights-Out embedded
HP Smart Array P410i/Zero Memory Controller
(6) Hot-Plug (LFF) SAS/SATA Drive Bays
(9) available PCI-e Gen2 slots
(5) USB ports
(3) Hot Plug Fans
4U Rack Form Factor

## Step 2: Choose Required Options (only one of the following from each list)

| | | |
|---|---|---|
| HP Processors | NOTE: If High Performance Model features are desired, 2nd processor is included in the Performance Pack part numbers in Step 3 below. | |
| | Quad-Core Processors | |
| | Intel® Xeon® Processor W5580 (3.20 GHz, 8MB L3 Cache, 130W, DDR3-1333, HT, Turbo 1/1/1/2), FIO | 495928-L21 |
| | Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO | 495930-L21 |
| | Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO | 495932-L21 |
| | Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3), FIO | 495934-L21 |
| | Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO | 495936-L21 |
| | Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO | 495938-L21 |
| | Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2), FIO | 495940-L21 |
| | Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO | 495942-L21 |
| | Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO | 495944-L21 |
| | Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2), FIO | 505511-L21 |
| | Dual-Core Processors | |
| | Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800), FIO | 495946-L21 |
| HP Memory | Registered DIMMs (RDIMMs) | |
| | HP 2GB 2Rx8 PC3-10600R-9 Kit | 500656-B21 |
| | HP 4GB 2Rx4 PC3-10600R-9 Kit | 500658-B21 |
| | HP 4GB 4Rx8 PC3-8500R-7 LP Kit | 500660-B21 |
| | HP 8GB 2Rx4 PC3-8500R-7 Kit | 516423-B21 |
| | HP 8GB 2Rx4 PC3-10600R-9 Kit | 500662-B21 |
| | HP 16GB 4Rx4 PC3-8500R-7 Kit | 500666-B21 |
| | Unbuffered with ECC DIMMs (UDIMMs) | |
| | HP 1GB 1Rx8 PC3-10600E-9 Kit | 500668-B21 |
| | HP 2GB 2Rx8 PC3-10600E-9 Kit | 500670-B21 |

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient

HP Power Supplies

NOTE: Refer to HP Power Advisor when selecting a power supply for your configuration, www.hp.com/go/hppoweradvisor. Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

| | |
|---|---|
| HP 460W CS HE Gold Power Supply | 503296-B21 |
| HP 750W CS HE Gold Power Supply | 512327-B21 |
| HP 1200W CS HE Silver Power Supply | 500172-B21 |

NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.

## Step 3: Choose Additional Factory Integratable Options

HP Storage Controllers

NOTE: If Additional Memory Cache Module or Controller is Required please pick one of the following:

| | |
|---|---|
| HP Smart Array P212/256 MB w/ Battery FIO | 491191-B21 |
| HP Smart Array P410/256 MB w/ Battery FIO | 491195-B21 |
| HP Smart Array P411/256 MB w/ Battery FIO | 491193-B21 |
| Optional Upgrades | |
| 256MB Cache Module FIO<br>NOTE: Available for P410i only. | 534108-B21 |
| 512MB BBWC | 462967-B21 |
| 512MB Flash Backed Write Cache<br>NOTE: Supported on the Smart Array P410i Controller only. | 534916-B21 |
| 1G Flash Backed Write Cache<br>NOTE: Supported on the Smart Array P410i Controller only. | 534562-B21 |

HP Performance Packs

Performance Packs are necessary to configure a HP ProLiant DL370 G6 or a HP ProLiant ML370 G6 to a High Performance Model which includes the latest performance technologies and enterprise class availability features pre-installed for convenience and value. The Performance Pack includes a 2nd processor, redundant fans, power supply, and memory expansion board.
NOTE: Must also select 447326-B21 to achieve parity to DL370 G6 or ML370 G6 High Performance Models.

| | |
|---|---|
| HP ML370 G6 and DL370 G6 X5550 HPM FIO Perf Kit | 516727-B21 |

## Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Core Options" and "Additional Options" section below.

## Core Options

NOTE: Some options may not be available for factory integration. Please contact an HP sales representative for additional information.

| | | |
|---|---|---|
| HP Unique Options | (8) Small Form Factor (SFF) 2nd Drive Cage Kit | 507803-B21 |
| | (6) Large Form Factor (LFF) Backplane Kit | 507810-B21 |
| | (2) Large Form Factor (LFF) Drive Cage Kit | 487936-B21 |
| | HP ML370 G6 Tower to Rack Conversion Kit | 515031-B21 |
| | HP ML370 G6 and DL370 G6 Redundant Fan Kit | 508107-B21 |
| | HP ML370 G6 and DL 370 G6 Graphic Card Adapter Kit<br>NOTE: An option kit will be required per Graphic Card)<br>NOTE: 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical) | 537721-B21 |
| | HP ML370 G6 and DL370 G6 Smart-mini DIMM Module<br>NOTE: By plugging the Smart-mini DIMM Module to the HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter, TCP/IP Offload Engine (TOE) for Windows is enabled/supported. | 519808-B21 |
| | HP ML370 G6 and DL370 G6 PCI-X Riser Kit<br>NOTE: Customers purchasing the PCI-X Riser Kit, must also purchase the Redundant Fan kit (508107-B21) | 516434-B21 |
| HP Processors | Quad-Core Processors | |
| | Intel® Xeon® Processor W5580 (3.20 GHz, 8MB L3 Cache, 130W, DDR3-1333, HT, Turbo 1/1/1/2) | 495928-B21 |
| | Intel® Xeon® Processor X5570 (2.93 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) | 495930-B21 |
| | Intel® Xeon® Processor X5560 (2.80 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) | 495932-B21 |
| | Intel® Xeon® Processor X5550 (2.66 GHz, 8MB L3 Cache, 95W, DDR3-1333, HT, Turbo 2/2/3/3) | 495934-B21 |
| | Intel® Xeon® Processor E5540 (2.53 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) | 495936-B21 |
| | Intel® Xeon® Processor E5530 (2.40 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) | 495938-B21 |
| | Intel® Xeon® Processor E5520 (2.26 GHz, 8MB L3 Cache, 80W, DDR3-1066, HT, Turbo 1/1/2/2) | 495940-B21 |
| | Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80W, DDR3-800) | 495942-B21 |
| | Intel® Xeon® Processor E5504 (2.00 GHz, 4MB L3 Cache, 80W, DDR3-800) | 495944-B21 |
| | Intel® Xeon® Processor L5520 (2.26 GHz, 8MB L3 Cache, 60W, DDR3-1066, HT, Turbo 1/1/2/2) | 505511-B21 |
| | Dual-Core Processors | |
| | Intel® Xeon® Processor E5502 (1.86 GHz, 4MB L3 Cache, 80W, DDR3-800) | 495946-B21 |

## Core Options

| | | |
|---|---|---|
| HP Memory | Registered DIMMs (RDIMMs) | |
| | HP 2GB 2Rx8 PC3-10600R-9 Kit | 500656-B21 |
| | HP 4GB 2Rx4 PC3-10600R-9 Kit | 500658-B21 |
| | HP 4GB 4Rx8 PC3-8500R-7 LP Kit | 500660-B21 |
| | HP 8GB 2Rx4 PC3-8500R-7 Kit | 516423-B21 |
| | HP 8GB 2Rx4 PC3-10600R-9 Kit | 500662-B21 |
| | HP 16GB 4Rx4 PC3-8500R-7 Kit | 500666-B21 |
| | Unbuffered with ECC DIMMs (UDIMMs) | |
| | HP 1GB 1Rx8 PC3-10600E-9 Kit | 500668-B21 |
| | HP 2GB 2Rx8 PC3-10600E-9 Kit | 500670-B21 |
| | NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator<br>NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient | |
| HP Optical Drives | HP Half-Height SATA DVD-ROM Optical Drive | 447326-B21 |
| | HP Half-Height SATA DVD-RW Optical Drive | 447328-B21 |
| | HP Slim SATA DVD-ROM Optical Drive | 481041-B21 |
| | HP Slim SATA DVD RW Optical Drive | 481043-B21 |
| HP Hard Drives | NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.<br>NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details. | |
| | SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives | |
| | HP 300GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507127-B21 |
| | HP 300GB 3G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 492620-B21 |
| | HP 146GB 6G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512547-B21 |
| | HP 146GB 3G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 504062-B21 |
| | HP 146GB 6G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 507125-B21 |
| | HP 146GB 3G SAS 10K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 418367-B21 |
| | HP 72GB 6G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 512545-B21 |
| | HP 72GB 3G SAS 15K SFF (2.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 418371-B21 |
| | SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives | |
| | HP 600GB 6G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516828-B21 |
| | HP 450GB 6G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516816-B21 |
| | HP 450GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 454232-B21 |
| | HP 300GB 6G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 516814-B21 |
| | HP 300GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 416127-B21 |
| | HP 146GB 3G SAS 15K LFF (3.5-inch) Dual Port Enterprise 3yr Warranty Hard Drive | 384854-B21 |

| | |
|---|---|
| SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives | |
| HP 500GB 6G SAS 7.2K rpm SFF (2.5inch) Midline 1yr Warranty Hard Drive | 507610-B21 |
| SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives | |
| HP 1TB 3G SAS 7.2K rpm LFF(3.5-inch) Dual Port Midline 1yr Warranty Hard Drive | 461137-B21 |
| HP 750GB 3G SAS 7.2K rpm LFF(3.5-inch) Dual Port Midline 1yr Warranty Hard Drive | 461135-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html (Worldwide) | |
| SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives | |
| HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive | 507750-B21 |
| HP 160GB 3G SATA 7.2K rpm SFF (2.5-inch) Midline 1yr Warranty Hard Drive | 530888-B21 |
| SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives | |
| HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 507632-B21 |
| HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 454146-B21 |
| HP 750GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 458930-B21 |
| HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 458928-B21 |
| HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Midline 1yr Warranty Hard Drive | 458926-B21 |
| SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives | |
| HP 250GB 3G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive | 460355-B21 |
| HP 120GB 1.5G SATA 5.4K rpm SFF (2.5-inch) Entry 1yr Warranty Hard Drive | 458924-B21 |
| SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives | |
| HP 250GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive | 571230-B21 |
| HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Entry 1yr Warranty Hard Drive | 458945-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html (Worldwide) | |
| SATA Hot Plug Midline (MDL) Solid State Drives | |
| HP 60GB 3G SATA 2.5in MDL 1y Wty SSD | 572071-B21 |
| HP 120GB 3G SATA 2.5in MDL 1y Wty SSD | 572073-B21 |
| SATA Hot Plug 3.5" Midline (MDL) Solid State Drives | |
| HP 60GB 3G SATA 3.5in MDL 1y Wty SSD | 570761-B21 |
| HP 120GB 3G SATA 3.5in MDL 1y Wty SSD | 570763-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13415_div/13415_div.html (Worldwide) | |

## Core Options

| | | |
|---|---|---|
| HP Networking | Gigabit Ethernet adapters | |
| | HP NC112T PCIe Gigabit Server Adapter | 503746-B21 |
| | HP NC360T PCI Express Dual Port Gigabit Server Adapter | 412648-B21 |
| | HP NC364T PCI Express Quad Port Gigabit Server Adapter<br>NOTE: There is a maximum of five NC364T PCI Express Quad Port Gigabit Server Adapters allowed in this server. | 435508-B21 |
| | HP NC373F PCI Express Multifunction Gigabit Server Adapter | 394793-B21 |
| | HP NC373T PCI Express Multifunction Gigabit Server Adapter | 394791-B21 |
| | HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter | 458492-B21 |
| | HP NC375T PCI Express Quad Port Gigabit Server Adapter | 538696-B21 |
| | 10 Gigabit Ethernet adapters | |
| | HP NC522SFP Dual Port 10GbE Gigabit Server Adapter<br>NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each NC522SFP adapter.<br>NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. | 468332-B21 |
| | HP NC524SFP Dual Port 10GbE Server Adapter<br>NOTE: One NC524SFP allowed per system; a minimum of two gigabytes (2 GB) of server memory is required for the NC524SFP module.<br>NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. | 489892-B21 |
| | HP NC550SFP Dual Port 10GbE Server Adapter<br>NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each NC550SFP adapter.<br>NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately.<br>NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs. | 581201-B21 |
| | Smart-mini DIMM Module | |
| | HP ML370 G6 and DL370 G6 Smart-mini DIMM Module<br>NOTE: By plugging the Smart-mini DIMM Module to the HP NC375i Integrated Quad Port Multifunction Gigabit Server Adapter, TCP/IP Offload Engine (TOE) for Windows is enabled/supported. | 519808-B21 |
| HP I/O Expansion Options | HP DL370 G6 2 Slot PCI-X Riser Kit<br>NOTE: Customers purchasing the PCI-X Riser Kit, must also purchase the Redundant Fan kit (508107-B21) | 516434-B21 |

## Core Options

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|---|---|---|
| HP Power Supplies | CAUTION: Many HP ProLiant Servers now offer new power options, including Common Slot Power Supplies. These power supplies come in multiple power ratings and higher efficiency levels to offer the Right Size solution to fit your configuration. This provides improved power delivery and the advantage of reclaiming lost power. Prior to making a power supply selection it is "highly recommended" that the "HP Power Advisor" is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor. In ProLiant Servers that have more than one power slot (bay), only same size power supplies are recommended. If non-matched power supplies are inserted you will get errors and operation will fail. | |
| | HP 460W CS HE Gold Power Supply | 503296-B21 |
| | HP 750W CS HE Gold Power Supply | 512327-B21 |
| | HP 1200W CS HE Silver Power Supply | 500172-B21 |
| | NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables. | |
| HP Cooling Options | HP ML370 G6 and DL370 G6 Redundant Fan Kit | 508107-B21 |

## Additional Options

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|---|---|---|
| HP Insight Software | HP Insight Control server deployment | |
| | HP Insight Control server deployment, Electronic License including 1 year of 24x7 Technical Support and Updates | T9082AAE |
| | NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.<br>NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.<br>NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service.<br>NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates.<br>NOTE: For additional license options please see the Insight Control QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html | |
| | HP Insight Control for Linux | |
| | HP Insight Control for Linux, 1-server license, including one year of 24x7 Technical Support and Updates, Electronic | T9084BAE |
| | HP Insight Control for Linux, No Media, 1-Server license, including one year of 24x7 Technical Support and Updates | 464423-B22 |
| | HP Insight Control for Linux, Media pack (DVD) - No licenses included | 464422-B22 |
| | NOTE: Media pack DVD contains HP Insight Control for Linux, HP Systems Insight Manager, HP Insight Control power management, HP Insight Control virtual machine management, and an integrated installer. Servers must be acquired separately.<br>NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates.<br>NOTE: Electronic software is available in all countries except China and Japan. Customers in China and Japan should order the physical equivalent.<br>NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single set of activation keys.<br>NOTE: For additional License Kits, including electronic licensing options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/13019_div/13019_div.html | |
| | HP Integrated Lights-Out Advanced | |
| | HP Integrated Lights-Out Advanced, No Media, 1-Server License, including 1 year of 24x7 Technical Support and Updates | 512485-B21 |
| | NOTE: This license allows 1 server to be deployed and managed via HP iLO Advanced. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service<br>NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12362_div/12362_div.html | |
| | HP Insight Rapid Deployment software | |
| | HP Insight Rapid Deployment software No Media 1-Server License including 1 year of 24x7 Technical Support and Updates | 452151-B21 |
| | NOTE: This license allows 1 server to be deployed and managed via RDP. Customer | |

Additional Options

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| | will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support Service<br>NOTE: For additional license kits, including electronic delivery options, please see the QuickSpecs at:<br>http://h18000.www1.hp.com/products/quickspecs/11053_div/11053_div.html | |
| HP Drive Cage Options | (8) Small Form Factor (SFF) 2nd Drive Cage Kit | 507803-B21 |
| | (6) Large Form Factor (LFF) Backplane Kit | 507810-B21 |
| | (2) Large Form Factor (LFF) Drive Cage Kit | 487936-B21 |
| HP Graphic Options | HP ML370 G6 and DL370 G6 Graphic Card Cable Kit<br>NOTE: An option kit will be required per Graphic Card.<br>NOTE: 2 PCIe Gen2 x16 (mechanical/electrical); 1 PCIe Gen2 x16 (mechanical) x8 (electrical) | 537721-B21 |
| HP Security - TPM | HP Trusted Platform Module Option Kit | 488069-B21 |
| HP Storage Controllers | SAS Controllers | |
| | HP Smart Array P800 Controller | |
| | HP Smart Array P800/512 BBWC Controller | 381513-B21 |
| | HP Smart Array P212 Controller | |
| | HP Smart Array P212/Zero Memory Controller | 462828-B21 |
| | HP Smart Array P212/256 MB Controller | 462834-B21 |
| | HP Smart Array P410 Controller | |
| | HP Smart Array P410/256 MB Controller | 462862-B21 |
| | HP Smart Array P410/512 MB with BBWC Controller | 462864-B21 |
| | HP Smart Array P410/512MB with FBWC | 578230-B21 |
| | HP Smart Array P410/1G with FBWC | 572532-B21 |
| | HP Smart Array P411 Controller | |
| | HP Smart Array P411/256 MB Controller | 462830-B21 |
| | HP Smart Array P411/512 MB with BBWC Controller | 462832-B21 |
| | HP Smart Array P411/512MB Flash Backed Write Cache | 578229-B21 |
| | HP Smart Array P411/1G Flash Backed Write Cache | 572531-B21 |
| | Smart Array P812 Controller | |
| | HP P812/1G Flash Backed Cache Controller | 487204-B21 |
| | Optional Upgrades | |
| | 256 MB Cache Module<br>NOTE: Supported on HP Smart Array P212 Controller only. | 462968-B21 |
| | 512MB BBWC | 462967-B21 |

Additional Options

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|---|---|
| Battery Kit upgrade<br>NOTE: To enable BBWC on the 256MB cache.<br>NOTE: Supported on HP P410i Smart Array (integrated), HP Smart Array P212 Controller, HP Smart Array P410 Controller, and HP Smart Array P411 Controller only. | 462969-B21 |
| 1G Flash Backed Write Cache<br>NOTE: Supported on the Smart Array P410i Controller only. | 534562-B21 |
| 512MB Flash Backed Write Cache<br>NOTE: Supported on the Smart Array P410i Controller only. | 534916-B21 |
| HP 8484 to Mini SAS 33in Cable Assy<br>NOTE: Needed to support internal drives on the HP ProLiant DL370 G6 or the HP ProLiant ML370 G6 with the Smart Array P800 Controller. | 591734-B21 |
| 512MB Flash Backed Write Cache | 534916-B21 |
| 1G Flash Backed Write Cache | 534562-B21 |
| HP Smart Array Advanced Pack No Media 1-Server license including 1yr 24x7 Technical Support<br>NOTE: This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customers will receive a license entitlement certificate via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services. | 516471-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information:<br>http://h18000.www1.hp.com/products/quickspecs/12616_div/12616_div.html (Smart Array P800 Controller)<br>http://h18000.www1.hp.com/products/quickspecs/13203_div/13203_div.html (Smart Array P212 Controller)<br>http://h18000.www1.hp.com/products/quickspecs/13201_div/13201_div.html (Smart Array P410 Controller)<br>http://h18000.www1.hp.com/products/quickspecs/13202_div/13202_div.html (Smart Array P411 Controller)<br>http://h18000.www1.hp.com/products/quickspecs/13558_div/13558_div.html (Smart Array P812 Controller)<br>http://h18000.www1.hp.com/products/quickspecs/13200_div/13200_div.html (Smart Array Advanced Pack) | |
| SAS Controller Options | |
| HP SAS Expander Card<br>NOTE: For use with the additional 8 SFF drive cage (507803-B21). | 468406-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information:<br>http://h18004.www1.hp.com/products/quickspecs/13232_div/13232_div.html (SAS Expander Card) | |
| SAS HBA | |
| HP SC08Ge Host Bus Adapter | 488765-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information:<br>http://h18004.www1.hp.com/products/quickspecs/13082_div/13082_div.html (SC08Ge HBA) | |

## Additional Options

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|---|---|---|
| HP Power Cords | NOTE: HP ProLiant servers ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs). | |
| | Nema 5-15P to IEC320-C13, North America low voltage (6 ft/2 m) | AF556A |
| | Power Cord, Euro, 10A 250 V Straight (6 ft/1.83 m) | AF568A |
| | Power Cord, UK, 10A 250 V Straight (6 ft/1.83 m) | AF570A |
| | Power Cord, Danish, 10A 250 V Straight (6 ft/1.83 m) | AF566A |
| | Power Cord, Swiss, 10A 250 V Straight (6 ft/1.83 m) | AF565A |
| | Power Cord, Italian, 10A 250 V Straight (6 ft/1.83 m) | AF571A |
| | Power Cord, South Africa, 10A 250 V Straight (8.2 ft/2.5 m) | AF567A |
| HP Tape Storage | NOTE: For the complete listing of Tape Drive offerings, please see: http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html | |
| | For recommended tape drive offerings for this ProLiant server see the following: | |
| | Tape Drives | |
| | USB Rack-Mount Tape Solutions | |
| | HP StorageWorks DAT 160 USB Internal Drive | Q1580A |
| | DAT 320 WW SAS External Tape Drive | AJ828A |
| | DAT 320 USB External Tape Drive | AJ823A |
| | HP DAT 320 USB Internal Tape Drive | AJ825A |
| | HP 1U DAT320 USB Rack Enclosure | AP835A |
| | SAS Rack-Mount Tape Solutions | |
| | HP DAT 320 SAS Internal Tape Drive | AJ830A |
| | HP StorageWorks LTO-2 Ultrium 448 SAS Internal Tape Drive | DW085A |
| | HP StorageWorks LTO-3 Ultrium 920 SAS Internal Tape Drive | EH847A |
| | HP StorageWorks LTO-4 Ultrium 1760 SAS Internal Tape Drive | EH919A |
| | NOTE: For the ML370 G6, HP recommends purchasing the HP Smart Array P212 Controller (462828-B21) for a dedicated SAS HBA for tape.<br>NOTE: Please refer to the "Tape Drives, Tape Autoloaders & Tape Libraries" table in the Storage section of this document for a list of SAS controllers with tape support. | |
| | HP StorageWorks 1/8 G2 Tape Autoloader | |
| | HP StorageWorks 1/8 G2 LTO-4 Ultrium 1760 SAS Tape Autoloader | AK377A |
| | HP StorageWorks 1/8 G2 LTO-3 Ultrium 920 SAS Autoloader | AH558A |
| | HP StorageWorks 1/8 G2 Tape Autoloader Rack Kit | AH166A |
| | NOTE: Required to install the 1/8 G2 Autoloaders in a standard 19-inch rack; includes rails and rackmount instructions. | |
| | NOTE: Please reference the Tape Autoloader QuickSpecs at: http://www.hp.com/go/automation for additional information needed to create a complete solution; reference current compatibility information at: http://www.hp.com/go/ebs. | |
| | HP StorageWorks MSL2024 Tape Library | |
| | HP StorageWorks MSL2024 1 LTO-4 Ultrium 1760 SAS Drive Library | AK378A |
| | HP StorageWorks MSL2024 1 LTO-3 Ultrium 920 SAS Drive Library | AH559A |

## Additional Options

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|---|---|---|
| | HP StorageWorks MSL4048 Tape Library | |
| | HP StorageWorks MSL4048 2 LTO-4 Ultrium 1760 SAS Drive Library | AK380A |
| | HP StorageWorks MSL4048 1 LTO-3 Ultrium 920 SAS Drive Library | AH560A |
| | NOTE: Please reference the MSL Tape Library QuickSpecs at: http://www.hp.com/go/automation for additional information needed to create a complete solution; reference current compatibility information at: http://www.hp.com/go/ebs. | |
| HP Disk Backup | RDX Removable Disk Backup | |
| | HP StorageWorks RDX500 Internal Removable Disk Backup System<br>NOTE: 500GB of Disk Storage. | AJ934A |
| | D2D Backup | |
| | HP StorageWorks D2D120 Backup System with Data Protector Express Software Kit<br>NOTE: 2TB of Disk Storage. | EH924A |
| | HP StorageWorks D2D130 Backup System with LTO-3 Ultrium 920 SAS Tape Drive<br>NOTE: 3TB of Disk Storage. | EH952A |
| | HP StorageWorks D2D2503i Backup System<br>NOTE: 3TB of Disk Storage. | EH945A |
| | HP StorageWorks D2D4004i Backup System<br>NOTE: 4.5TB of Disk Storage. | EH938A |
| | NOTE: Please see the HP D2D Backup Systems QuickSpecs for additional information: http://www.hp.com/go/d2d. | |
| HP StorageWorks Options | StorageWorks Fibre Channel HBA<br>NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html | |
| | Brocade Fibre Channel HBAs | |
| | HP StorageWorks 81B PCI-e FC HBA Single Port | AP769A |
| | HP StorageWorks 82B PCI-e FC HBA Dual Port | AP770A |
| | HP StorageWorks 41B 4Gb PCI-e FC HBA | AP767A |
| | HP StorageWorks 42B 4Gb Dual-Port PCI-e FC HBA | AP768A |
| | Emulex Fibre Channel HBAs | |
| | HP StorageWorks 81E PCI-e FC HBA Single Port | AJ762A |
| | HP StorageWorks 82E PCI-e FC HBA Dual Port | AJ763A |
| | HP StorageWorks FC2142 4Gb PCI-e HBA | A8002A |
| | HP StorageWorks FC2242 Dual Channel 4Gb PCI-e HBA | A8003A |
| | QLogic Fibre Channel HBAs | |
| | HP StorageWorks 81Q PCI-e FC HBA Single Port | AK344A |
| | HP StorageWorks 82Q PCI-e FC HBA Dual Port | AJ764A |
| | HP StorageWorks FC1142 4Gb PCI-e HBA | AE311A |
| | HP StorageWorks FC1242 Dual Channel 4Gb PCI-e HBA | AE312A |
| | StorageWorks Converged Network Adapter | |
| | HP CN1000E 2P Converged Network Adapter | AW520A |

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| HP Modular Smart Array | MSA SAN Storage Arrays | |
| | HP StorageWorks 50 Modular Smart Array | 364430-B21 |
| | NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12245_div/12245_div.html (Worldwide) | |
| | HP StorageWorks 60 Modular Smart Array | 418408-B21 |
| | NOTE: Supports 12 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s. NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12627_div/12627_div.html | |
| | HP StorageWorks 70 Modular Smart Array | 418800-B21 |
| | NOTE: Supports 25 SFF drives, and SAS 3 Gb/s and SATA 1.5 Gb/s. NOTE: Please see the QuickSpecs for additional options and configuration information at: http://h18000.www1.hp.com/products/quickspecs/12652_div/12652_div.html | |
| HP Uninterruptible Power Systems | HP Tower UPS | |
| | HP T1000v Uninterruptible Power System | |
| | HP T1000v UPS | AF443A |
| | NOTE: The T1000v is available in China and India only. | |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13130_div/13130_div.html (Worldwide) | |
| | HP T1500 G3 UPS Models | |
| | HP T1500 G3 UPS, NA | AF450A |
| | HP T1500 G3 UPS, INTL | AF451A |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13160_div/13160_div.html (Worldwide) | |
| | HP Rack-mountable UPS | |
| | HP R1500 G2 UPS | |
| | HP, R1.5kVA UPS, 1U, NA | AF419A |
| | HP, R1.5kVA UPS, 1U, INTL | AF418A |
| | HP, R1.5kVA UPS, 1U, JPN/TW | AF421A |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12507_div/12507_div.html (Worldwide) | |
| | HP R3000 UPS | |
| | HP R3000 VA UPS, 2U, High Voltage L6-20, JPN | AF424A |
| | HP R3000 VA UPS, 2U, Low Voltage L5-30, JPN | AF425A |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/10671_div/10671_div.html (Worldwide) | |

## Additional Options

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|---|---|---|
| | HP R/T3000 Uninterruptible Power System (UPS) | |
| | HP R/T3000 UPS, Low voltage NA/JPN | AF452A |
| | HP R/T3000 UPS, High voltage, NA/JPN | AF453A |
| | HP R/T3000 UPS, High voltage, detachable inlet cord INTL | AF454A |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13417_div/13417_div.html (Worldwide) | |
| | HP Rack-Mountable R5500 UPS | |
| | HP R5500 VA UPS, INTL | AF416A |
| | HP R5500 VA UPS, NA/JPN | AF426A |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/11871_div/11871_div.html (Worldwide) | |
| | NOTE: For additional information on HP Uninterruptible Power Systems please go to: www.hp.com/servers/rackups. | |
| | NOTE: For additional information on sizing your server, please reference: http://www.upssizer.com. | |
| HP Power Distribution Units | Monitored PDUs | |
| | HP Monitored Power Distribution Unit: Full Rack Version | |
| | HP 17.3 kVA S2324 Monitored PDU- dual input, 3Ø, 24A (NA/JPN) | AF503A |
| | HP 8.6 kVA S1324 Monitored PDU- single input, 3Ø, 24A (NA/JPN) | AF504A |
| | HP 16.6 kVA S2140 Monitored PDU- dual input, 1Ø, 40A (NA/JPN) | AF505A |
| | HP 8.3 S1140 Monitored PDU- single input, 1Ø, 40A (NA/JPN) | AF506A |
| | HP 22.1 kVA S2316 Monitored PDU- dual input, 3Ø, 16A (INTL) | AF507A |
| | HP 11 kVA S1316 Monitored PDU- single input, 3Ø, 16A (INTL) | AF508A |
| | HP 14.7 kVA S2132 Monitored PDU- dual input, 1Ø, 32A (INTL) | AF509A |
| | HP 7.3 kVA S1132 Monitored PDU- single input, 1Ø, 32A (INTL) | AF510A |
| | HP Monitored Power Distribution Unit: Half Rack Version | |
| | HP 4.9 kVA S124 Monitored PDU- single input, 1Ø, 24A (NA/JPN) | AF914A |
| | HP 7.3 kVA S132 Monitored PDU- single input, 1Ø, 32A (INTL) | AF915A |
| | Modular Power Distribution Units 1U/0U (Up to 32 outlets) | |
| | HP Two Fixed Cord Extension Bars | 351655-B21 |
| | NOTE: Two extension bar sticks; each with (7) C13 plugs. | |
| | 2.8 kVA Modular PDU, 24A | 252663-D71 |
| | 3.6 kVA Modular PDU, 16A | 252663-B24 |
| | 4.9 kVA Modular PDU, 24A | 252663-D72 |
| | 8.3 kVA Modular PDU, 40A | 252663-B21 |
| | 8.3 kVA Modular PDU, 40A | 252663-D73 |
| | 8.3 kVA Modular PDU, 40A | 252663-D75 |
| | 4.9 kVA Modular PDU, 24A | 252663-D74 |
| | NOTE: For additional information on HP Power Distribution Units including accessories please go to: www.hp.com/go/pdu (Worldwide) | |

## Additional Options

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|---|---|---|
| HP Rack Series | HP Rack 5000 Series (Graphite Metallic) | |
| | HP 5642 Rack-Unassembled | 358254-B21 |
| | NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/12074_div/12074_div.html (Worldwide) | |
| | HP Rack 10000 G2 Series (Carbon/Graphite Metallic) | |
| | 10642 G2 (42U) Rack Cabinet 1200mm Deep - Shock Pallet | AF034A |
| | 10642 G2 (42U) Rack Cabinet 1200mm Deep - Pallet | AF038A |
| | 10647 G2 (47U) Rack Cabinet 1200mm Deep - Shock Pallet | AF044A |
| | NOTE: Due to handling and shipping requirements, AF044A is only orderable through HP Factory Express. It is not for direct sales. Customer site surveys are required before an order is approved. CTO orders may require additional lead time. | |
| | 10647 G2 (47U) Rack Cabinet 1200mm Deep - Pallet | AF045A |
| | NOTE: It is mandatory to use a shock pallet when shipping racks with equipment installed.<br>NOTE: xxxxxx-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels).<br>NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html (Worldwide)<br>NOTE: For additional information regarding Rack Cabinets, please see the following URL: http://www.hp.com/go/rackandpower. | |
| HP Rack Options | Monitors and keyboards | |
| | TFT7600 Rackmount Keyboard Monitor US | AG052A |
| | TFT7600 Rackmount Keyboard Monitor UK | AG053A |
| | TFT7600 Rackmount Keyboard Monitor GR | AG054A |
| | TFT7600 Rackmount Keyboard Monitor FR | AG055A |
| | TFT7600 Rackmount Keyboard Monitor IT | AG056A |
| | TFT7600 Rackmount Keyboard Monitor SP | AG057A |
| | TFT7600 Rackmount Keyboard Monitor DEN | AG058A |
| | TFT7600 Rackmount Keyboard Monitor NOR | AG059A |
| | TFT7600 Rackmount Keyboard Monitor SE/FI | AG060A |
| | TFT7600 Rackmount Keyboard Monitor SWI | AG061A |
| | TFT7600 Rackmount Keyboard Monitor PORT | AG062A |
| | TFT7600 Rackmount Keyboard Monitor BEL | AG063A |
| | TFT7600 Rackmount Keyboard Monitor JPN2 | AG064A |
| | TFT7600 Rackmount Keyboard Monitor RUS | AG065A |
| | TFT7600 Rackmount Keyboard Monitor INT | AG066A |
| | HP TAA TFT7600 US Rkmntkybd 17in Monitor | AG067A |
| | 1U Rackmount Keyboard with USB, US | AG072A |
| | 1U Rackmount Keyboard with USB, UK | AG073A |

Additional Options

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|---|---|
| 1U Rackmount Keyboard with USB, GR | AG074A |
| 1U Rackmount Keyboard with USB, FR | AG075A |
| 1U Rackmount Keyboard with USB, ITL | AG076A |
| 1U Rackmount Keyboard with USB, SP | AG077A |
| 1U Rackmount Keyboard with USB, DEN | AG078A |
| 1U Rackmount Keyboard with USB, NOR | AG079A |
| 1U Rackmount Keyboard with USB, SE/FI | AG080A |
| 1U Rackmount Keyboard with USB, SWI | AG081A |
| 1U Rackmount Keyboard with USB, PORT | AG082A |
| 1U Rackmount Keyboard with USB, BEL | AG083A |
| 1U Rackmount Keyboard with USB, JPN2 | AG084A |
| 1U Rackmount Keyboard with USB, RUS | AG085A |
| 1U Rackmount Keyboard with USB, INTL | AG086A |

NOTE: For additional information regarding Rack Options, please see the following URL: http://www.hp.com/go/rackandpower.

HP KVM Switch Options

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|---|---|
| 2x1x16 IP Console Switch with Virtual Media | AF601A |
| 4x1x16 IP Console Switch with Virtual Media | AF602A |
| 1x1Ex8 KVM IP Console Switch G2 with Virtual Media and CAC | AF620A |
| 2x1Ex16 KVM IP Console Switch G2 with Virtual Media and CAC | AF621A |
| 4x1Ex32 KVM IP Console Switch G2 with Virtual Media and CAC | AF622A |
| 2x16 Server Console Switch with Virtual Media | AF600A |
| 0x2x16 KVM Server Console G2 Switch with Virtual Media and CAC | AF618A |
| 0x2x32 KVM Server Console G2 Switch with Virtual Media and CAC | AF619A |
| PS/2 Virtual Media Interface Adapter, 1 pack | AF604A |

NOTE: Requires PS/2 and one USB port on server.

| | |
|---|---|
| Server console switch 0x2x8 | AF616A |
| Server console switch 0x2x16 | AF617A |
| HP TAA Server console switch 0x2x16 | AF626A |
| PS/2 Interface Adapter, 1 pack | 262588-B21 |
| PS/2 Interface Adapter, 8 pack | 262587-B21 |

NOTE: Cat5e cables are required to connect Interface Adapters to Console Switches. Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm.

| | |
|---|---|
| HP 1x4 Console Switch | AF611A |
| PS2 Server Console Cable, 6 ft, 2 pack | AF612A |
| HP 1x4 KVM Console 6ft USB Cable | AF613A |

NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm.

HP Serial Console Server Options

| | |
|---|---|
| HP 16 Port Serial Console Server (worldwide) | AF101A |
| HP 48 Port Serial Console Server (worldwide) | AF102A |
| Serial Adapter, RJ45-DB9 DCE Female, 1 Pack | AF103A |

## Additional Options

| | | |
|---|---|---|
| | Serial Adapter, RJ45-DB9 DCE Female, 8 Pack | AF110A |
| | NOTE: Cat5e cables are required to connect Serial Adapters to Serial Console Servers. Additional Serial Adapters and Cat5e cables can be found at the following URL: http://www.hp.com/go/kvm. | |
| | NOTE: For additional information regarding KVM switches, Serial Console servers, rack mount monitors, keyboards and all related options please see the following URL: http://www.hp.com/go/kvm. | |
| | Rack Kits | |
| | HP ML370G6 Tower to Rack Conversion Kit | 515031-B21 |
| HP USB and SD Options | HP 1.44MB USB External Floppy Drive | DC141B |
| | HP USB 2-Button Optical Scroll Mouse | DC172B |
| | HP Standard USB Keyboard US | DT528A#ABA |
| | HP 4GB SD Flash Media Kit | 580387-B21 |
| | NOTE: Blank SD media device is supported for use with VMware and Citrix. SD media must be installed in the internal slot of the ProLiant server. Learn more at: http://www.hp.com/go/proliantvirtualization. | |
| HP Care Pack Services | HP ProLiant ML370 G6 Service & Support Offerings | |
| | Hardware Services On-site Service | |
| | 4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic | U4528E |
| | 4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic | U4529E |
| | Hardware Services 6-Hour Call to Repair On-site Service | |
| | 6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic | U4530E |
| | Installation & Start-up Services | |
| | Hardware Installation, Electronic | U4538E |
| | Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic | U4539E |
| | Support Plus | |
| | Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic | U4540E |
| | Support Plus 24 | |
| | Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic | U4541E |
| | Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic | U6311E |
| | Onsite HW support 24x7, 4hr response and Red Hat ES Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic | U8333E |
| | HP ProLiant DL370 G6 Service & Support Offerings | |
| | Hardware Services On-site Service | |
| | 4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic | UM752E |

## Additional Options

| | |
|---|---|
| 4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic | UM753E |
| **Hardware Services 6-Hour Call to Repair On-site Service** | |
| 6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic | UM754E |
| **Installation & Start-up Services** | |
| Hardware Installation, Electronic | UM777E |
| Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic | UM778E |
| **Support Plus 24** | |
| Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic | UM763E |
| Onsite HW support 24x7, 4hr response and SuSE Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic | UM764E |
| Onsite HW support 24x7, 4hr response and Red Hat ES Linux SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic | UM765E |

NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/carepack.

## Memory

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

HP ProLiant DL370 G6 Models

HP ProLiant ML370 G6 Models

DDR3 memory population guidelines

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool:
www.hp.com/go/ddr3memory-configurator

Some DIMM installation guidelines are summarized below:

- For servers with eighteen (18) memory slots:
  - There are three (3) channels per processor; six (6) channels per server
  - There are three (3) DIMM slots for each memory channel; eighteen (18) total slots
  - Memory channel 1 consists of the three (3) DIMMs that are closest to the processor
  - Memory channel 3 consists of the three (3) DIMMs that are furthest from the processor
- DIMM slots that are white should be populated first
- Do not mix Unbuffered memory (UDIMMs) with Registered memory (RDIMMs)
- Do not install DIMMs if the corresponding processor is not installed
- If only one processor is installed in a 2CPU system, only half of the DIMM slots are available
- To maximize performance, balance the total memory capacity between all installed processors
- It is not required, but it is recommended to load the channels similarly if possible
- You can only have up to eight (8) ranks installed per channel
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3;6 on a 3DPC system or 1,4; 2,5; on a 2DPC system
- No mixing DIMM voltage; all DIMMs must be the same voltage

| DIMM Type -> | Registered Dimms (RDIMMs) | | | | | | Unbuffered with ECC DIMMs (UDIMMs) | |
|---|---|---|---|---|---|---|---|---|
| DIMM Rank -> | Dual Rank (2R) | | | | Quad Rank (4R) | | Single Rank (1R) | Dual Rank (2R) |
| DIMM Capacity -> | 2GB | 4GB | 8GB | 8GB | 4GB | 16GB | 1GB | 2GB |
| DIMM Native Speed (MHz) -> | 1333 | 1333 | 1066 | 1333 | 1066 | 1066 | 1333 | 1333 |
| | | | | | | | | |
| SLOTS THAT CAN BE POPULATED | | | | | | | | |
| 18 slot servers | 18 | 18 | 18 | 18 | 12 | 12 | 12 | 12 |
| | | | | | | | | |
| MAXIMUM CAPACITY (GB) | | | | | | | | |
| 18 slot servers | 36 | 72 | 144 | 144 | 48 | 192 | 12 | 24 |
| | | | | | | | | |
| POPULATED DIMM SPEED (MHz) | | | | | | | | |
| 1 DIMM Per Channel | 1333 | 1333 | 1066 | 1333 | 1066 | 1066 | 1333 | 1333 |
| 2 DIMM Per Channel | 1066 | 1066 | 1066 | 1333* | 800 | 800 | 1066 | 1066 |
| 3 DIMM Per Channel | 800 | 800 | 800 | 800 | n/a | n/a | n/a | n/a |

## Memory

* Supported with ROM update via ROM Based Setup Utility (RBSU).

NOTES:

- Mixing DIMM speeds is allowed, but the system processor speed rules always override the DIMM capabilities
- If you do mix DIMM speeds, the memory bus will default to the minimum clock rate of all DIMMs in the system - even if the slower DIMM is on the other processor
- If you install 1x 1066MHz DIMM in channel 1 and 1x 1333MHz DIMM in channel 2, you still run at 1066MHz
- If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the other channels, you run at 1066MHz
- If you install 3DPC in one channel (if applicable) and 1DPC in all other channels, you run at 800MHz
- 95 Watt CPU's are required for 1333MHz DIMM speeds.
- References to the above MHz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

### DIMM slot and configuration diagrams

### Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.

| 18 DIMM SLOTS (9 per CPU node) | | | | | |
|---|---|---|---|---|---|
| | CPU1 | | CPU2 | | |
| | slot # | population order | slot # | population order | |
| Chnl 1 | 1 | G | 1 | G | Chnl 1 |
| | 2 | D | 2 | D | |
| | 3 | A | 3 | A | |
| | | | | | |
| Chnl 2 | 4 | H | 4 | H | Chnl 2 |
| | 5 | E | 5 | E | |
| | 6 | B | 6 | B | |
| | | | | | |
| Chnl 3 | 7 | I | 7 | I | Chnl 3 |
| | 8 | F | 8 | F | |
| | 9 | C | 9 | C | |

### Standard memory configuration (1 CPU model)

- 6GB, consisting of three (3) 2GB dual-rank PC3-10600 RDIMMs

Memory

| | CPU1 | | CPU2 | | |
|---|---|---|---|---|---|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 1 | G; empty | 1 | G; empty | Chnl 1 |
| | 2 | D; empty | 2 | D; empty | |
| | 3 | A; 2GB DIMM | 3 | A; empty | |
| | | | | | |
| Chnl 2 | 4 | H; empty | 4 | H; empty | Chnl 2 |
| | 5 | E; empty | 5 | E; empty | |
| | 6 | B; 2GB DIMM | 6 | B; empty | |
| | | | | | |
| Chnl 3 | 7 | I; empty | 7 | I; empty | Chnl 3 |
| | 8 | F; empty | 8 | F; empty | |
| | 9 | C; 2GB DIMM | 9 | C; empty | |

Standard memory plus optional memory (1 CPU model)

- 54GB, consisting of three (3) 2GB RDIMMs plus six (6) 8GB RDIMMs
  - 3x 2GB dual-rank PC3-10600 RDIMMs
  - 6x 8GB dual-rank PC3-10600 or PC3-8500 RDIMMs

| | CPU1 | | CPU2 | | |
|---|---|---|---|---|---|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 1 | G; 8GB DIMM | 1 | G; empty | Chnl 1 |
| | 2 | D; 8GB DIMM | 2 | D; empty | |
| | 3 | A; 2GB DIMM | 3 | A; empty | |
| | | | | | |
| Chnl 2 | 4 | H; 8GB DIMM | 4 | H; empty | Chnl 2 |
| | 5 | E; 8GB DIMM | 5 | E; empty | |
| | 6 | B; 2GB DIMM | 6 | B; empty | |
| | | | | | |
| Chnl 3 | 7 | I; 8GB DIMM | 7 | I; empty | Chnl 3 |
| | 8 | F; 8GB DIMM | 8 | F; empty | |
| | 9 | C; 2GB DIMM | 9 | C; empty | |

Standard memory replaced with optional memory (1 CPU model)
RDIMM maximum configuration

- 72GB, consisting of nine (9) 8GB dual-rank PC3-10600 or PC3-8500 RDIMMs

Memory

| | CPU1 | | CPU2 | | |
|---|---|---|---|---|---|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 1 | G; 8GB DIMM | 1 | G; empty | Chnl 1 |
| | 2 | D; 8GB DIMM | 2 | D; empty | |
| | 3 | A; 8GB DIMM | 3 | A; empty | |
| | | | | | |
| Chnl 2 | 4 | H; 8GB DIMM | 4 | H; empty | Chnl 2 |
| | 5 | E; 8GB DIMM | 5 | E; empty | |
| | 6 | B; 8GB DIMM | 6 | B; empty | |
| | | | | | |
| Chnl 3 | 7 | I; 8GB DIMM | 7 | I; empty | Chnl 3 |
| | 8 | F; 8GB DIMM | 8 | F; empty | |

UDIMM maximum configuration (1 CPU model)

- 12GB, consisting of six (6) 2GB dual-rank PC3-10600 UDIMMs

| | CPU1 | | CPU2 | | |
|---|---|---|---|---|---|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 1 | G; empty | 1 | G; empty | Chnl 1 |
| | 2 | D; 2GB DIMM | 2 | D; empty | |
| | 3 | A; 2GB DIMM | 3 | A; empty | |
| | | | | | |
| Chnl 2 | 4 | H; empty | 4 | H; empty | Chnl 2 |
| | 5 | E; 2GB DIMM | 5 | E; empty | |
| | 6 | B; 2GB DIMM | 6 | B; empty | |
| | | | | | |
| Chnl 3 | 7 | I; empty | 7 | I; empty | Chnl 3 |
| | 8 | F; 2GB DIMM | 8 | F; empty | |
| | 9 | C; 2GB DIMM | 9 | C; empty | |

Standard memory replaced with optional memory (2 CPU model)
RDIMM maximum configuration

- 192GB, consisting of twelve (12) 16GB Quad-Rank PC3-8500 RDIMMs

## Memory

| | CPU1 | | CPU2 | | |
|---|---|---|---|---|---|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 1 | G; empty | 1 | G; empty | Chnl 1 |
| | 2 | D; 16GB DIMM | 2 | D; 16GB DIMM | |
| | 3 | A; 16GB DIMM | 3 | A; 16GB DIMM | |
| | | | | | |
| Chnl 2 | 4 | H; empty | 4 | H; empty | Chnl 2 |
| | 5 | E; 16GB DIMM | 5 | E; 16GB DIMM | |
| | 6 | B; 16GB DIMM | 6 | B; 16GB DIMM | |
| | | | | | |
| Chnl 3 | 7 | I; empty | 7 | I; empty | Chnl 3 |
| | 8 | F; 16GB DIMM | 8 | F; 16GB DIMM | |
| | 9 | C; 16GB DIMM | 9 | C; 16GB DIMM | |

UDIMM maximum configuration (2 CPU model)

- 24GB, consisting of twelve (12) 2GB dual-rank PC3-10600 UDIMMs

| | CPU1 | | CPU2 | | |
|---|---|---|---|---|---|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 1 | G; empty | 1 | G; empty | Chnl 1 |
| | 2 | D; 2GB DIMM | 2 | D; 2GB DIMM | |
| | 3 | A; 2GB DIMM | 3 | A; 2GB DIMM | |
| | | | | | |
| Chnl 2 | 4 | H; empty | 4 | H; empty | Chnl 2 |
| | 5 | E; 2GB DIMM | 5 | E; 2GB DIMM | |
| | 6 | B; 2GB DIMM | 6 | B; 2GB DIMM | |
| | | | | | |
| Chnl 3 | 7 | I; empty | 7 | I; empty | Chnl 3 |
| | 8 | F; 2GB DIMM | 8 | F; 2GB DIMM | |
| | 9 | C; 2GB DIMM | 9 | C; 2GB DIMM | |

NOTE: Capacity references are rounded to the common Gigabyte values.

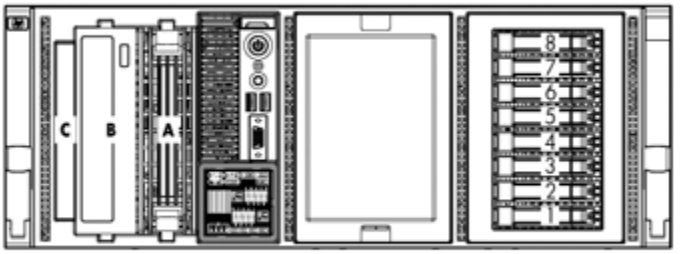
- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB

## Memory

Following are memory options available from HP:

| | | |
|---|---|---|
| HP Memory | Registered DIMMs (RDIMMs) | |
| | HP 2GB 2Rx8 PC3-10600R-9 Kit | 500656-B21 |
| | HP 4GB 2Rx4 PC3-10600R-9 Kit | 500658-B21 |
| | HP 4GB 4Rx8 PC3-8500R-7 LP Kit | 500660-B21 |
| | HP 8GB 2Rx4 PC3-8500R-7 Kit | 516423-B21 |
| | HP 8GB 2Rx4 PC3-10600R-9 Kit | 500662-B21 |
| | HP 16GB 4Rx4 PC3-8500R-7 Kit | 500666-B21 |
| | Unbuffered with ECC DIMMs (UDIMMs) | |
| | HP 1GB 1Rx8 PC3-10600E-9 Kit | 500668-B21 |
| | HP 2GB 2Rx8 PC3-10600E-9 Kit | 500670-B21 |

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.

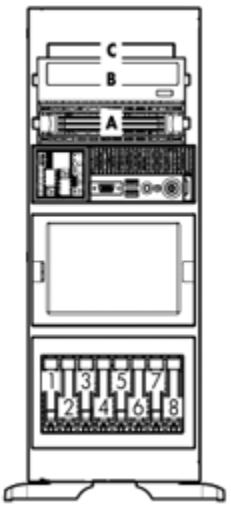



A Removable media bay

B SATA DVD-ROM Drive (Standard in all BTO Models)

C Optical Drive (blank)

1-8 Eight SFF SAS/SATA HDD Bays (Standard in all BTO Models)

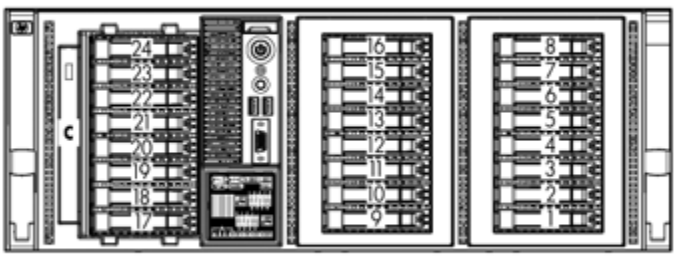



A Removable media bay

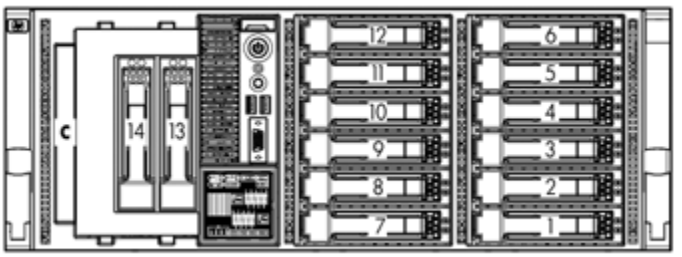
B SATA DVD-ROM Drive (Standard in all BTO Models)

C Optical Drive (blank)

1-8 Eight SFF SAS/SATA HDD Bays (Standard in all BTO Models)




1-24 Twenty-four small form factor (SFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives with optional drive cages (up to three 8 SFF drive cage can be installed)




1-14 Fourteen large form factor (LFF) hot-plug drive bays to support Serial-attached SCSI (SAS) and Serial ATA (SATA) drives with optional drive cages

## Drive Support

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| Removable Media | | | |
| Half-Height SATA DVD-ROM Optical Drive | Up to 2 | A, B | Integrated IDE |
| Half-Height SATA DVD RW Optical Drive | Up to 2 | A, B | Integrated IDE |
| HP Slim SATA DVD-ROM Optical Drive | 1<br>NOTE: Also please use if the 3 drive cage is populated | C | Integrated IDE |
| HP Slim SATA DVD RW Optical Drive | 1<br>NOTE: Also please use if the 3 drive cage is populated | C | Integrated IDE |

Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

SAS Hot Plug SFF (2.5-inch) Enterprise (ENT) Drives

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 300GB 6G SAS 10K DP | Up to 24 | 1-8 | HP Smart Array P800/512 BBWC Controller |
| 300GB 3G SAS 10K DP | | 1-24 | HP Smart Array P212/Zero Memory Controller |
| 146GB 6G SAS 15K DP | | | HP Smart Array P212/256 MB Controller |
| 146GB 3G SAS 15K DP | | | HP Smart Array P410/256 MB Controller |
| 146GB 6G SAS 10K DP | | | HP Smart Array P410/512 MB BBWC Controller |
| 146GB 3G SAS 10K DP | | | HP Smart Array P411/256 MB Controller |
| 72GB 6G SAS 15K DP | | | HP Smart Array P411/512 MB BBWC Controller |
| 72GB 3G SAS 15K DP | | | |

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 600GB 6G SAS 15K DP | Up to 14 | 1-14 | HP Smart Array P800/512 BBWC Controller |
| 450GB 6G SAS 15K DP | | | HP Smart Array P212/Zero Memory Controller |
| 450GB 3G SAS 15K DP | | | HP Smart Array P212/256 MB Controller |
| 300GB 6G SAS 15K DP | | | HP Smart Array P410/256 MB Controller |
| 300GB 3G SAS 15K DP | | | HP Smart Array P410/512 MB BBWC Controller |
| 146GB 3G SAS 15K DP | | | HP Smart Array P411/256 MB Controller |
| | | | HP Smart Array P411/512 MB BBWC Controller |

SAS Hot Plug SFF (2.5-inch) Midline (MDL) Drives

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 500GB 6G SAS 7.2K DP | Up to 14 | 1-14 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

SAS Hot Plug LFF (3.5-inch) Midline (MDL) Drives

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 1TB 3G SAS 7.2K DP<br>750GB 3G SAS 7.2K DP | Up to 14 | 1-14 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

SATA Hot Plug SFF (2.5-inch) Midline (MDL) Drives

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 500GB 3G SATA 7.2K<br>160GB 3G SATA 7.2K | Up to 24 | 1-8<br>1-24 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 2TB 3G SATA 7.2K<br>1TB 3G SATA 7.2K<br>750GB 3G SATA 7.2K<br>500GB 3G SATA 7.2K<br>250GB 3G SATA 7.2K | Up to 14 | 1-14 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

SATA Hot Plug SFF (2.5-inch) Entry (ETY) Drives

## Storage

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 250GB 3G SATA 5.4K<br>120GB 1.5G SATA 5.4K | Up to 24 | 1-8<br>1-24 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

SATA Hot Plug LFF (3.5-inch) Entry (ETY) Drives

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 250GB 3G SATA 7.2K<br>160GB 3G SATA 7.2K | Up to 14 | 1-14 | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

SATA Hot Plug Midline (MDL) Solid State Drives

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 60GB 3.0G SATA SSD<br>120GB 3.0G SATA SSD | Up to 24 | 1-8<br>1-24 | HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

SATA Hot Plug 3.5" Midline (MDL) Solid State Drives

| | Quantity Supported | Position Supported | Controller |
|---|---|---|---|
| 60GB 3.0G SATA SSD<br>120GB 3.0G SATA SSD | Up to 14 | 1-14 | HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller<br>HP Smart Array P410/256 MB Controller<br>HP Smart Array P410/512 MB BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

## Storage

### External Storage

| | Quantity Supported | Position Supported | Host Controller or Adapter |
|---|---|---|---|
| 50 Modular Smart Array | Up to 4 | External | HP Smart Array P800/512 BBWC Controller |
| 60 Modular Smart Array | Up to 4 | External | HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller |
| | Up to 8 | | HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller<br>HP Smart Array P800/512 BBWC Controller |
| 70 Modular Smart Array | Up to 2 | External | HP Smart Array P212/Zero Memory Controller<br>HP Smart Array P212/256 MB Controller |
| | Up to 4 | | HP Smart Array P800/512 BBWC Controller<br>HP Smart Array P411/256 MB Controller<br>HP Smart Array P411/512 MB BBWC Controller |

### Tape and Disk-Based Backup

NOTE: For a complete listing of compatible tape and disk-based backup offerings, please visit: www.hp.com/go/connect.

| | Position Supported | Controller | Part Number |
|---|---|---|---|
| Internal USB Tape Drives<br>DAT 40 USB<br>DAT 72 USB<br>DAT 160 USB | A | USB 2.0 Port | N/A |
| USB Tape Drives, External<br>DAT 40 USB<br>DAT 72 USB<br>DAT 160 USB<br>1U Rack-Mount Kit | External | USB 2.0 Port | N/A |
| SAS Tape Drives, Internal<br>DAT 160 SAS<br>LTO-2 Ultrium 448 SAS<br>LTO-3 Ultrium 920 SAS<br>LTO-4 Ultrium 1760 SAS | A | HP Smart Array P212/Zero Memory Controller | 462828-B21 |
| SAS Tape Drives, External<br>DAT 160 SAS<br>LTO-2 Ultrium 448 SAS<br>LTO-3 Ultrium 920 SAS<br>LTO-4 Ultrium 1760 SAS<br>LTO-4 Ultrium 1840 SAS<br>1U Rack-Mount<br>3U Rack-Mount | External | HP Smart Array P212/Zero Memory Controller | 462828-B21 |
| SAS Tape Automation, External | External | HP Smart Array P212/Zero Memory Controller | 462828-B21 |

## Storage

| | | | |
|---|---|---|---|
| 1/8 G2 Autoloader<br>MSL2024<br>MSL4048<br>MSL8096 | | | |
| Fibre Tape Automation, External<br>MSL2024<br>MSL4048<br>MSL8096<br>MSL6000 | External | Please consult the EBS connectivity matrix at: http://www.hp.com/go/ebs for detailed connectivity information. | N/A |
| HP StorageWorks RDX Removable Disk Backup System, Internal<br>RDX160<br>RDX320<br>RDX500 | A | USB 2.0 Port | N/A |
| HP StorageWorks RDX Removable Disk Backup System, External<br>RDX160<br>RDX320<br>RDX500 | External | USB 2.0 Port | N/A |
| HP StorageWorks D2D Backup Systems<br>D2D120<br>D2D130<br>D2D2500i<br>D2D4000i | External | Embedded Network Controller | N/A |

Power Specifications

| HP 460W Power Supply Part Number - AC 460W PSU | 503296-B21 | | | | | | |
|---|---|---|---|---|---|---|---|
| Input Voltage Range (Vrms) | 100 to 240 | | | | | | |
| Frequency Range (Nominal) (Hz) | 50/60 | | | | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 200 | 208 | 220 | 230 | 240 |
| Maximum Rated Output Wattage | 460 | 460 | 460 | 460 | 460 | 460 | 460 |
| Nominal Input Current (A rms) | 5.5 | 4.5 | 2.6 | 2.5 | 2.4 | 2.3 | 2.2 |
| Max Rated Input Wattage Rating (Watts) | 526 | 520 | 505 | 505 | 503 | 503 | 503 |
| Max. Rated VA (Volt-Amp) | 548 | 542 | 527 | 527 | 524 | 524 | 524 |
| Efficiency (%) at Max. Rated Output Wattage | 87.5 | 88.5 | 91 | 91 | 91.5 | 91.5 | 91.5 |
| Power Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Leakage Current (mA) | 0.42 | 0.50 | 0.83 | 0.87 | 0.92 | 0.96 | 1.00 |
| Max. Inrush Current (A peak) | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Max. Inrush Current duration (mS) | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Maximum British Thermal Unit Rating (BTU-Hr) | 1794 | 1773 | 1725 | 1725 | 1715 | 1715 | 1715 |

| HP 750W Power Supply Part Number - AC 750W PSU | 512327-B21 | | | | | | |
|---|---|---|---|---|---|---|---|
| Input Voltage Range (Vrms) | 100 to 240 | | | | | | |
| Frequency Range (Nominal) (Hz) | 50/60 | | | | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 200 | 208 | 220 | 230 | 240 |
| Maximum Rated Output Wattage | 750 | 750 | 750 | 750 | 750 | 750 | 750 |
| Nominal Input Current (A rms) | 8.9 | 7.4 | 4.3 | 4.1 | 3.9 | 3.7 | 3.6 |
| Max Rated Input Wattage Rating (Watts) | 857 | 847 | 824 | 825 | 820 | 820 | 820 |
| Max. Rated VA (Volt-Amp) | 894 | 884 | 859 | 859 | 854 | 854 | 854 |
| Efficiency (%) at Max. Rated Output Wattage | 87.5 | 88.5 | 91 | 91 | 91.5 | 91.5 | 91.5 |
| Power Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Leakage Current (mA) | 0.42 | 0.50 | 0.83 | 0.87 | 0.92 | 0.96 | 1.00 |
| Max. Inrush Current (A peak) | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Max. Inrush Current duration (mS) | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Maximum British Thermal Unit Rating (BTU-Hr) | 2925 | 2892 | 2812 | 2812 | 2797 | 2797 | 2797 |

## Power Specifications

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| HP 1200W Power Supply Part Number - AC | 500172-B21 | | | | | | |
| Operational Input Voltage Range (Vrms) | 100 to 240 | | | | | | |
| Frequency Range (Nominal) (Hz) | 50/60 | | | | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 200 | 208 | 220 | 230 | 240 |
| Maximum Rated Output Wattage | 800 | 900 | 1200 | 1200 | 1200 | 1200 | 1200 |
| Nominal Input Current (A rms) | 9.7 | 9.0 | 7.0 | 6.8 | 6.4 | 9.1 | 5.9 |
| Max Rated Input Wattage Rating (Watts) | 930 | 1034 | 1348 | 1348 | 1348 | 1348 | 1348 |
| Max. Rated VA (Volt-Amp) | 970 | 1079 | 1406 | 1406 | 1406 | 1406 | 1406 |
| Efficiency (%) at Max. Rated Output Wattage | 86 | 87 | 89 | 89 | 89 | 89 | 89 |
| Power Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Leakage Current (mA) | 0.42 | 0.50 | 0.83 | 0.87 | 0.92 | 0.96 | 1.00 |
| Max. Inrush Current (A peak) | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Max. Inrush Current duration (mS) | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Maximum British Thermal Unit Rating (BTU-Hr) | 3174 | 3530 | 4600 | 4600 | 4600 | 4600 | 4600 |

To review typical system power ratings use the Active Answers HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

To drill down to calculators:
- Click on: "ProLiant Servers"
- Click on the Server of interest. Example: DL370 G6 or ML370 G6
- Click on: "Power Calculator" link. (You may need to scroll down to see it)

Technical Specifications

| | | | |
|---|---|---|---|
| System Unit | Tower Dimensions (H x W x D) (with bezel) | 18.52 x 9.75 x 29.12 in (47.04 x 24.77 x 73..96 cm) | |
| | Rack Dimensions (H x W x D) (with bezel) | 6.88 x 19.03 x 27.53 in (17.48 x 48.34 x 69.93 cm) | |
| | Tower Weight (approximate) | Maximum (two hard drives, power supply, and processor installed) | 103.06 lbs (46.75 kg) |
| | | Minimum (one hard drive, power supply, and processor installed) | 66,14 lbs (30.00 kg) |
| | Rack Weight (approximate) | Maximum (two hard drives, power supply, and processor installed) | 103.06 lbs (46,75 kg) |
| | | Minimum (one hard drive, power supply, and processor installed) | 55.12 lbs (25.00 kg) |
| | Input Requirements (per power supply) | Rated Line Voltage | 90 - 132 VAC,<br>180 - 264 VAC |
| | | Rated Input Current | 7.5A (at 100 VAC),<br>3.8A (at 200 VAC) |
| | | Rated Input Frequency | 47 to 63 Hz |
| | | Rated Input Power | 980W (at 100 VAC)<br>1035W (at 120 VAC)<br>1170W (at 240 VAC) |
| | BTU Rating | Maximum | 460W - 1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC)<br>750W - 2892 BTU / hr (at 120 VAC), 2797 (at 240 VAC)<br>1200W - 3530 BTU / hr (at 120 VAC), 4600 (at 240 VAC) |
| | Power Specifications | To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient<br><br>- Click on the system of interest. Example: DL370 G6 or ML370 G6<br>- Follow the instructions of the next screens. | |
| | Power Supply Output (per power supply) | Rated Steady-State Power | 460 W (at 100 VAC) |
| | | Maximum Peak Power | 460 W (at 200 VAC)<br>460 W (at 100 VAC)<br>460 W (at 200 VAC)<br>NOTE: See Power Supply Specifications tables for complete details on 460W PSU and optional 750W and 1200W Power Supply Options. |
| | System Inlet Temperature | Operating | 10° to 35°C (50° to 95°F) at sea level with an |

| | | |
|---|---|---|
| | | altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed.<br>System performance may be reduced if operating with a fan fault or above 30°C (86°F). |
| | Non-operating | -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr). |
| Relative Humidity (non-condensing) | Operating | 10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing. |
| | Non-operating | 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing. |
| Altitude | Operating | 3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). |
| | Non-operating | 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min). |
| Acoustic Noise | Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). | |
| | Idle | |
| | L WAd | 5.6 B for 1P Non-Redundant; 5.5 B for 2P Redundant |
| | L pAm | 39 dB for 1P Non-Redundant; 39 dB for 2P Redundant |
| | Operating | |
| | L WAd | 5.6 B for 1P Non-Redundant; 5.5 B for 2P Redundant |
| | L pAm | 39 dB for 1P Non-Redundant; 39 dB for 2P Redundant |
| | NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. | |
| Emissions Classification (EMC) | FCC Rating | Class B |
| | Normative Standards | CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1 |
| | NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements. | |

| | | |
|---|---|---|
| Smart Array P410i Controller | Dimensions (not including bracket) | Low Profile PCIe Form Factor<br>7.5 in x 9.5 in x 2.25 in (19.05 cm x 24.13 cm x 5.72 cm) |
| | Disk Drive and Enclosure Interface - Transfer rate | 6Gb/s SAS (Serial Attached SCSI)<br>3Gb/s SATA (Serial ATA) |
| | SAS Connectors | 2 internal (Mini-SAS) x8 wide port connectors |
| | Cache Memory Speed | DDR2-800MHz with 40 or 72-bit wide bus provides up to 4.2 GB/s maximum bandwidth. |
| | Server Interface | x8 5G PCIe 2.0 provides 4GB/s maximum bandwidth |
| | SAS Speed | x8 3G SAS provides 2.4GB/s maximum bandwidth |
| | Cache Memory | 40-bit 256MB ECC protected cache (72-bit 512MB BBWC module upgrades available); transportable with battery-backed upgrade |
| | Logical Drives Supported | Up to 64 logical drives |
| | Maximum Logical Drive Capacity | Greater than 2TB |
| | Host Memory Addressing | 64-bit, supporting greater than 4GB server memory space |
| | RAID Support | RAID 6, 6+0 (Advanced Data Guarding)<br>NOTE: The minimum of 256 MB cache, battery kit, and Smart Array Advanced Pack License Key upgrade is required to enable RAID 6, 6+0<br>RAID 5, 5+0 (Distributed Data Guarding)<br>NOTE: The 256MB upgrade is required to enable RAID 5 support on the Smart Array P410i.<br>RAID 1+0 (Striping & Mirroring)<br>RAID 0 (Striping) |
| | Upgradeable Firmware | Upgradeable Firmware with recovery ROM feature |

| | | | |
|---|---|---|---|
| NC375i Integrated Quad Port Multifunction Gigabit Server Adapter | Network Interface | 10Base-T/100Base-TX/1000Base-TX | |
| | Compatibility | IEEE 802.3 10Base-T<br>IEEE 802.3ab 1000Base-T<br>IEEE 802.3u 100Base-TX<br>IEEE 802.3ad 1000Base-TX<br>IEEE 802.1p 100Base-TX<br>IEEE 802.1q 100Base-TX | |
| | Data Transfer Method | PCI Express, four lanes (x4) | |
| | Controller | Qlogic/NetXen NX3031 | |
| | Network Transfer Rate | 10Base-T (Half-Duplex) | 10 Mb/s |
| | | 10Base-T (Full-Duplex) | 20 Mb/s |
| | | 100Base-TX (Half-Duplex) | 100 Mb/s |
| | | 100Base-TX (Full-Duplex) | 200 Mb/s |
| | | 1000Base-TX (Half and Full-Duplex) | 2000 Mb/s |
| | Connector | RJ-45 | |

Technical Specifications

| | | |
|---|---|---|
| Cable Support | 10Base-T | Categories 3, 4 or 5 UTP up to 328 ft (100 m) |
| | 100Base-TX | Category 5 or higher UTP; up to 328 ft (100 m) |
| | 1000Base-TX | Category 5 or higher UTP; up to 328 ft (100 m) |

| | | |
|---|---|---|
| Environment-friendly Products and Approach | End-of-life Management and Recycling | Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.<br><br>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment. |

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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.